



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,817	03/26/2004	Abid Ghuman	81096258 / FMC 1627 PUS	2816
28395	7590	10/11/2005		
BROOKS KUSHMAN P.C./FGTL 1000 TOWN CENTER 22ND FLOOR SOUTHFIELD, MI 48075-1238			EXAMINER AGRAWAL, CHRISTOPHER K	
			ART UNIT 3726	PAPER NUMBER

DATE MAILED: 10/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/708,817

Applicant(s)

GHUMAN ET AL.

Examiner

Christopher K. Agrawal

Art Unit

3726

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☒ Claim(s) 2 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/26/04, 4/5/04....
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☒ Other: IDS cont: 6/7/04, 6/21/04.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 40, 42, 44, 46, 48, 50, 52, 88, 100 and 128. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities:
3. In paragraph [0023] of the detailed description, "a set of task stations are defined" should be replaced with --a set of task stations *is* defined-- for failure to comply with proper subject-verb agreement.

Claim Objections

4. Claim 2 is objected to because of the following informalities: The specification indicates that, "A set of *task stations* are defined and combined in what is referred to as a template." Therefore, examiner has interpreted that claim 2 should read, "a plurality of *task stations* is identified" in place of --a plurality of *manufacturing process lines* are identified--.
5. In the event that claim 2 does, in fact, correctly refer to "process lines", claim 3 would be rejected under 35 U.S.C. 112(2) for insufficient antecedent basis with respect to "the manufacturing process line".
6. Therefore, examination of claims 2 and 3 has been made according to the above interpretations.
7. Appropriate correction is required.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. **Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Sekine et. al. (U.S. Patent No. 5,127,569).**
10. Claim 1: Sekine teaches a method of designing a manufacturing process line (**Fig. 1**), comprising: identifying a manufacturing process comprising a set of discrete steps (**Col. 2 lines 10-32**) to be performed on at least one workpiece; identifying a

plurality of standardized work cells (**e.g. sub-assembly lines/cells 1-6**), each work cell having at least one standardized workpiece presenter **25** that supports the workpiece in a predefined spatial orientation, and at least one standardized processing tool **46**; selecting a subset of the set of discrete steps to be performed at a work cell and selecting the standardized work cell for performing the subset of steps (**Col. 2 lines 25-32**); and repeating the selecting step for additional subsets of steps to the plurality of work cells until all of the discrete steps are assigned to one of the plurality of work cells (**Col. 7 lines 29-35**).

11. Claim 2: Sekine also teaches the method of claim 1 as described above wherein a plurality of manufacturing work cells are identified as templates (**e.g. subassembly cells 1-6**).

12. Claim 3: Sekine also teaches the method of claim 2 wherein the manufacturing process line is completely designed by specifying a plurality of templates in a defined sequence (**Figs. 1-3**).

13. Claim 4: Sekine also teaches the method of claim 1 wherein the workpiece presenter and processing tool are interrelated with an integrated standard control system (**e.g. Col. 6 lines 30-37**).

14. With respect to the acts of designing the manufacturing process line and identifying processes and work cells, these acts are inherent to the overall process of the alleged invention as well as the cited reference. In order to put an assembly into tangible form, its elements must have at least been designed, identified and assembled in a certain manner.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

17. Claims 5-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sekine in view of a combination of one or more of the following references:

- a. Babel et. al. (U.S. Patent No. 5,225,650)
- b. Akeel '190 (U.S. Patent No. 6,378,190)
- c. Okabe et. al. (U.S. Patent No. 3,763,344)
- d. Ozaku et. al. (U.S. Patent No. 6,467,675)
- e. Genov et. al. (U.S. Patent No. 5,007,784)
- f. Helle et. al. (U.S. Patent No. 5,738,564)

- g. Moran (U.S. Patent No. 5,014,901)
- h. Okamoto (JP 404084694)
- i. Schafer et. al. (U.S. Patent No. 4,621,516)
- j. Sato et. al. (U.S. Patent No. 6,334,252)
- k. Alborante (U.S. Patent No. 5,115,115)
- l. Wind (U.S. Patent No. 6,515,251)
- m. Stiers et. al. (U.S. Patent No. 6,642,473)
- n. Akeel et. al. '739 (U.S. Patent No. 5,239,739)
- o. Bullen (U.S. Patent No. 6,001,181)

18. Sekine et. al. teaches the methods of claims 1-4 as described above but does not necessarily teach the methods including the specific workpiece presenters and processing tools of the depending claims.

19. Claim 5: Babel et. al. teaches a standardized workpiece presenter comprising a table top fixture having a tilt platform (**Col. 6 lines 22-23**) and a predefined processing tool selected from the group consisting essentially of a welder and a gripper (**Col. 9 lines 60-61**).

20. Claim 6: Akeel '190 teaches a standardized workpiece presenter comprising a hexapod manipulator having six computer controlled (**Col. 10 lines 35-37**) ball screws (**Col. 10 lines 49-50**). Okabe et. al. teaches a processing tool consisting of a pedestal style welder (**Fig. 2**).

21. Claim 7: Ozaku et. al. teaches a standardized workpiece presenter comprising a pedestal welding work cell having a robotic arm for picking up parts from a fixture and

Art Unit: 3726

moving the parts to the processing tool selected from the group consisting essentially of a pedestal welder, a sealant dispensing unit, and a projection weld gun (**Col. 8 lines 37-67**).

22. **Claim 8:** Genov et. al. teaches a workpiece presenter comprising a dual station (**Col. 2 line 67 - Col. 3 line 2**). Helle et. al. teaches a work cell having a seventh axis slide (**Col. 6 lines 43-45**). Okabe et. al. teaches a processing tool that is a welding gun.

23. **Claim 9:** Moran teaches a standardized workpiece presenter comprising a multiple sided trunnion fixture **16** having a plurality of fixtures for a plurality of workpieces that are rotated about a horizontal axis (**Col. 3 line 28 – Col. 4 line 10**).

Okabe et. al. teaches a processing tool that is a welding gun.

24. **Claim 10:** Okamoto teaches a standardized workpiece presenter comprising a multiple sided turntable fixture having a plurality of fixtures for a plurality of workpieces that are rotated about a vertical axis (**see abstract, Fig. 3**). Okabe et. al. teaches a processing tool consisting of a pedestal style welder (**Fig. 2**).

25. **Claim 11:** Schafer et. al. teaches a standardized workpiece presenter comprising an indexing shuttle having at least two independently controlled fixtures for at least two workpieces (**Col. 1 line 53 – Col. 2 line 2**). Okabe et. al. teaches a welding robot (**Fig. 2**).

26. **Claim 12:** Sato et. al. teaches a standardized workpiece presenter comprising a roller bed **279** for supporting a pallet that supports a fixture for a workpiece (**Fig. 9**).

Alborante teaches a processing tool that is a laser welding robot (**abstract; Figs. 3 and 4**).

Art Unit: 3726

27. Claim 13: Wind teaches a standardized workpiece presenter comprising a fixture in a press welding fixture and a processing tool that is a press welding fixture (**Col. 5 lines 17-21**).

28. Claim 14: Stiers et. al. teaches a standardized workpiece presenter comprising a fixture in a tool, and a processing tool selected from the group consisting essentially of a hemming tool **10**, a clinching tool, and a piercing tool (**Col. 4 lines 31-53**).

29. Claim 15: Schafer et. al. teaches a standardized workpiece presenter comprising a sliding tool plate on an indexing shuttle. Okabe et. al. teaches a welding robot (**Fig. 2**).

30. Claim 16: Sato et. al. teaches a standardized workpiece presenter comprising a pallet that is received on a roller bed (**Fig. 9**). Okabe et. al. teaches a welding robot (**Fig. 2**).

31. Claim 17: Sato et. al. teaches a standardized workpiece presenter comprising a pallet. Akeel et. al. '739 teaches a processing tool that is a vision work cell having optical measuring devices (**Col. 14 lines 45-49; Col. 16 lines 26-28**).

32. Claim 18: Schafer et. al. teaches a standardized workpiece presenter comprising a shuttling tooling plate mounted on a shuttle drive (**Col. 1 line 53 – Col. 2 line 2**).

Bullen teaches a processing tool that is sealant applicator (**see abstract**).

33. Claim 19: Sato et. al. teaches a standardized workpiece presenter comprising a pallet that is received on a roller bed (**Fig. 9**) and a processing tool that is a welding robot **287**.

34. Claim 20: Sato et. al. teaches a standardized workpiece presenter comprising a framer for joining a vehicle body side to an underbody that is mounted on a pallet on a roller bed. Stiers et. al. teaches a processing tool having a welding gate fixture for holding together workpieces to be welded (**Col. 2 lines 39-43**).

35. It would have been obvious to one of ordinary skill in the art at the time of the invention to have incorporated any one of the standardized workpiece presenters or processing tools of the above references with any one of the work cells of Sekine. It is very well known within the art of manufacturing and more specifically assembly line manufacturing to place machine cells having various workholders and tools in various arrangements as desired. For example, it would be obvious for a designer to place a work cell having a hexapod manipulator and a welder in a location of the assembly line where it is desirable to have a workpiece welded while being held by a hexapod manipulator. It has been held that mere arrangement of various components does not constitute patentable matter. *In re Japikse*, 86 USPQ 70.

Conclusion

36. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher K. Agrawal whose telephone number is (571) 272-3578. The examiner can normally be reached on Mon-Fri 8AM-4:30PM.

37. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bryant can be reached on (571) 272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3726

38. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CKA

A handwritten signature in black ink, appearing to read "David P. Bryant".

David P. Bryant
Primary Examiner

Christopher Agrawal
Patent Examiner
Art Unit 3726